

REMARKS

Applicants request reconsideration of the application in view of the amendments to the claims and the remarks presented herein.

The claims in the application are claims 1 to 20, no other claims having been presented. Applicants have noted with pleasure the allowance of claims 9 to 12.

Applicants are submitting PTO form 2038 for \$210 for the additional independent claim in excess of 3.

Claims 1, 5 and 6 have been rejected under 35 USC 102 as being anticipated by the Hoshino et al patent and claims 2 to 4 and 8 are rejected under 35 USC 103 as being obvious from Hoshino et al taken in view of Kobayashi et al. Claim 7 is rejected under 35 USC 103 as being obvious over Hoshino et al taken in view of Tsai et al. The Examiner states Hoshino et al discloses a method for manufacturing a fluorocarbon film including:

- A film formation step for introducing a mixed gas comprising a first and second carbon fluoride gas on a substrate inside a chamber,
- Depositing a fluorocarbon film on said substrate
- A step for forming voids in the fluorocarbon film by removing volatile components.

Applicants traverse these grounds of rejection since the Hoshino et al patent, taken alone or in view of the secondary references, does not anticipate or render obvious the invention.

The present invention discloses, as recited by amended claim 1, a method for manufacturing a fluorocarbon film wherein a specific inductive capacity is within a range of 2 or less characterized by including a step for introducing a mixed gas comprising a first carbon fluoride gas and a second carbon fluoride gas on a substrate placed inside a chamber, depositing a fluorocarbon film on said substrate; and for forming voids in said fluorocarbon film by selectively removing volatile components contained in said fluorocarbon film.

The Examiner seems to confuse the expression, "a step for forming voids", in the present invention and Hoshino et al. The Examiner cites a description of Hoshino et al, which refers to prior art in Hoshino et al and mentions that regarding claim 1, Hoshino et al. discloses a method for manufacturing a fluorocarbon film including a film formation step for introducing a mixed gas comprising a first and second carbon fluoride gas on a substrate inside a chamber, depositing a fluorocarbon film on said substrate and forming voids in the fluorocarbon film by removing volatile components.

However, the Examiner's recognition is not correct because Hoshino et al does not disclose a step for forming voids in the fluorocarbon film by removing volatile components nor any relationship between a fluorocarbon film and the specific inductive

capacity. Hoshino only discloses "However, the optical thin film formed on the optical element at a relatively low temperature as described above has a porous structure abundant in pores and voids and having an extremely large specific surface area, so that very large amounts of water vapor, volatile organic matters and volatile inorganic matters invade and are absorbed inside." (pg. 3, para. 22, lines 3-7).

In other words, the above description of Hoshino et al. explains merely one of general features of conventional optical thin film which is made of a fluorocarbon film and the phrase, "very large amounts of water vapor, volatile organic matters and volatile inorganic matters invade and are absorbed inside", of Hoshino et al. explains as undesirable feature of the fluorocarbon film with pores and voids. To make the difference more clearly, the phrase "a fluorocarbon film wherein a specific inductive capacity is within a range of 2 or less" has been added to the amended claim and 2.

The secondary references do not overcome the deficiency of the Hoshino et al reference. Kobayashi et al is only cited to show octafluorocyclopentene and hexafluorobenzene and Tsai et al is cited to show a plastic chamber having at least one plasma source used to generate plasma energy. Therefore, withdrawal of these rejections is requested.

The new claims 13 to 20 correspond to claims 1 to 8 but another phrase "a fluorocarbon film which is used as interlayer insulation films for semiconductor devices" is added. Hoshino et al. only disclose "interlayer insulation films for semiconductor

devices" but optical thin film. So we believe this limitation also contributes to make the difference more clear from the Hoshino's invention.

In view of the amendments to the claims and the above remarks, it is believed that the claims point out Applicants' patentable contribution. Therefore, favorable reconsideration of the application is requested.

Respectfully submitted,


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CAM:mlp
Enclosures

CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office on the date shown below.


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12-30-07